

# EQUINE RESPIRATORY DISEASE

The *AeroHippus\** Equine Aerosol Chamber is designed to deliver Metered Dose Inhaler (puffer) medication to horses with equine respiratory diseases such as Inflammatory Airway Disease or Recurrent Airway Obstruction.

The use of inhaled medication provides targeted delivery of medication to the lungs and reduces the side effects seen when treated with systemic medications.<sup>1</sup> Therapeutic effect can often be achieved with only a fraction of the dose required for systemic delivery of the same drug.<sup>2</sup>

# Flow-Vu\* Inhalation Indicator

The *Flow-Vu\** Indicator moves with inhalation and allows the caregiver to coordinate actuation with inhalation, count breaths taken and ensure a proper mask seal.



## One Size Fits All From foals to warmbloods

## High Lung Deposition

Radiolabelled studies show a mean lung deposition of 18.2%.<sup>3</sup> High deposition may result in fewer doses required for medication to be effective and for potential cost savings.

#### Small and Durable

Easy to Use and Clean

#### Anti-static Chamber

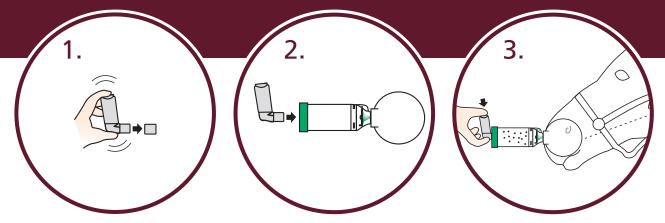
Holds the medication allowing the horse more time to inhale

## **Universal Backpiece**

Can be used with all commonly prescribed Metered Dose Inhalers (Note: not designed for use with Dry Powder Inhalers)



#### Easy to Use



- 1. Remove cap and shake inhaler
- 2. Insert inhaler into back of chamber and gently apply the mask over one nostril. Do NOT cover the other nostril as this will make it harder for the horse to breathe normally
- 3. Press the inhaler to release the medication when the Flow-Vu\* Inhalation Indicator is moving toward the horse. Hold the mask in place for 3-5 breaths. Only administer one puff at a time. Wait 30 seconds between puffs.

#### Metered Dose Inhaler Treatment

Adapted from: Franklin RP. Equine medicine field tactics 101: procedures and therapies for respiratory conditions. Proceedings of the Annual Resort Symposium of the American Association of Equine Practitioners AAEP Jan 30 – Feb 1, 2012.

BRONCHODILATORS	DRUG	STRENGTH	DOSE (PUFFS/500 KG)
Open air passages and provide immediate relief of bronchoconstriction Rescue medication for use as needed, but not routinely Treatment with bronchodilators prior to exercise may improve performance and allow better distribution of anti-inflammatory MDI's but will not contribute to resolving the inflammatory condition when used alone Anti-cholinergics dilate primarily the larger airways and beta-2-agonists are more effective in the peripheral airways³	Salbutamol (Ventolin† Evohaler†) • Short Acting Beta-2-Agonist	100 μg	5-10 puffs as required. Effective within minutes but duration of their effect is only 1–2 hours.
	Ipratropium Bromide (Atrovent†) • Anti-Cholinergic	20 μg	5-10 puffs as required. May take an hour for beneficial effect <sup>3</sup>
CORTICOSTEROIDS	DRUG	STRENGTH	DOSE (PUFFS/500 KG)
Help control airway inflammation and prevent reoccurrences	Fluticasone Propionate (Flixotide† Evohaler†) • Each Metered Dose Inhaler contains 120 puffs	250 μg	9 puffs twice daily for 2 weeks then once daily for 1 week and eventually on alternate days if necessary

#### **NOTES:**

- Wait 2 breaths between each actuation
- · Although a number of additional corticosteroid drugs have been produced for inhaled administration, fluticasone is preferred, because it is the most potent and has the longest half-life<sup>1</sup>
- Some of the newer Metered Dose Inhalers include dose indicators. If not, owners are encouraged to keep track of puffs.

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<sup>1</sup> Rush BR, Worster AA, Flaminio MJ et al. Alteration in adrenocortical function in horses with recurrent airway obstruction after aerosol and parenteral administration of beclomethasone dipropionate and dexamethasone. respectively. Am J Vet Res 1998;59:1044-1047.

<sup>&</sup>lt;sup>2</sup> Labiris NR, Dolovich MB. Pulmonary drug delivery. Part II: the role of inhalant delivery devices and drug formulations in therapeutic effectiveness of aerosolized medications. Br J Clin Pharmacol 2003;56(6):600-612.

<sup>3</sup> Ainsworth DM. Pulmonary Inflammatory Conditions of the Horse: The diagnosis and treatment of recurrent airway obstruction (RAO, Heaves) and Inflammatory Airway Disease (IAD). Proceedings of the 18th annual meeting of the Italian association of equine veterinarians SIVE 2012.